SEQUENCE LISTING

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<120>   HUMAN HEMTOPOIETIC STEM AND PROGENITOR CELL ANTIGEN AND METHODS FOR ITS USE

<130>   AMCE-012/02US

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<151>   1996-04-26

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<170>   PatentIn version 3.0

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<213>   Homo sapiens

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                                        Met Ala Leu Val Leu Gly
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tcc ctg ttg ctg ctg ggg ctg tgc ggg aac tcc ttt tca gga ggg cag      103
Ser Leu Leu Leu Leu Gly Leu Cys Gly Asn Ser Phe Ser Gly Gly Gln
            10                  15                  20

cct tca tcc aca gat gct cct aag gct tgg aat tat gaa ttg cct gca      151
Pro Ser Ser Thr Asp Ala Pro Lys Ala Trp Asn Tyr Glu Leu Pro Ala
        25                  30                  35

aca aat tat gag acc caa gac tcc cat aaa gct gga ccc att ggc att      199
Thr Asn Tyr Glu Thr Gln Asp Ser His Lys Ala Gly Pro Ile Gly Ile
        40                  45                  50

ctc ttt gaa cta gtg cat atc ttt ctc tat gtg gta cag ccg cgt gat      247
Leu Phe Glu Leu Val His Ile Phe Leu Tyr Val Val Gln Pro Arg Asp
55                  60                  65                  70

ttc cca gaa gat act ttg aga aaa ttc tta cag aag gca tat gaa tcc      295
Phe Pro Glu Asp Thr Leu Arg Lys Phe Leu Gln Lys Ala Tyr Glu Ser
                75                  80                  85

aaa att gat tat gac aag cca gaa act gta atc tta ggt cta aag att      343
Lys Ile Asp Tyr Asp Lys Pro Glu Thr Val Ile Leu Gly Leu Lys Ile
                90                  95                  100

gtc tac tat gaa gca ggg att att cta tgc tgt gtc ctg ggg ctg ctg      391
Val Tyr Tyr Glu Ala Gly Ile Ile Leu Cys Cys Val Leu Gly Leu Leu
            105                 110                 115

ttt att att ctg atg cct ctg gtg ggg tat ttc ttt tgt atg tgt cgt      439
Phe Ile Ile Leu Met Pro Leu Val Gly Tyr Phe Phe Cys Met Cys Arg
            120                 125                 130

tgc tgt aac aaa tgt ggt gga gaa atg cac cag cga cag aag gaa aat      487
Cys Cys Asn Lys Cys Gly Gly Glu Met His Gln Arg Gln Lys Glu Asn
135                 140                 145                 150

ggg ccc ttc ctg agg aaa tgc ttt gca atc tcc ctg ttg gtg att tgt      535
Gly Pro Phe Leu Arg Lys Cys Phe Ala Ile Ser Leu Leu Val Ile Cys
                155                 160                 165

ata ata ata agc att ggc atc ttc tat ggt ttt gtg gca aat cac cag      583
Ile Ile Ile Ser Ile Gly Ile Phe Tyr Gly Phe Val Ala Asn His Gln
            170                 175                 180

gta aga acc cgg atc aaa agg agt cgg aaa ctg gca gat agc aat ttc      631
Val Arg Thr Arg Ile Lys Arg Ser Arg Lys Leu Ala Asp Ser Asn Phe
        185                 190                 195
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2.

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aag gac ttg cga act ctc ttg aat gaa act cca gag caa atc aaa tat        679
Lys Asp Leu Arg Thr Leu Leu Asn Glu Thr Pro Glu Gln Ile Lys Tyr
    200             205             210

ata ttg gcc cag tac aac act acc aag gac aag gcg ttc aca gat ctg        727
Ile Leu Ala Gln Tyr Asn Thr Thr Lys Asp Lys Ala Phe Thr Asp Leu
215             220             225             230

aac agt atc aat tca gtg cta gga ggc gga att ctt gac cga ctg aga        775
Asn Ser Ile Asn Ser Val Leu Gly Gly Gly Ile Leu Asp Arg Leu Arg
            235             240             245

ccc aac atc atc cct gtt ctt gat gag att aag tcc atg gca aca gcg        823
Pro Asn Ile Ile Pro Val Leu Asp Glu Ile Lys Ser Met Ala Thr Ala
            250             255             260

atc aag gag acc aaa gag gcg ttg gag aac atg aac agc acc ttg aag        871
Ile Lys Glu Thr Lys Glu Ala Leu Glu Asn Met Asn Ser Thr Leu Lys
            265             270             275

agc ttg cac caa caa agt aca cag ctt agc agc agt ctg acc agc gtg        919
Ser Leu His Gln Gln Ser Thr Gln Leu Ser Ser Ser Leu Thr Ser Val
    280             285             290

aaa act agc ctg cgg tca tct ctc aat gac cct ctg tgc ttg gtg cat        967
Lys Thr Ser Leu Arg Ser Ser Leu Asn Asp Pro Leu Cys Leu Val His
295             300             305             310

cca tca agt gaa acc tgc aac agc atc aga ttg tct cta agc cag ctg        1015
Pro Ser Ser Glu Thr Cys Asn Ser Ile Arg Leu Ser Leu Ser Gln Leu
            315             320             325

aat agc aac cct gaa ctg agg cag ctt cca ccc gtg gat gca gaa ctt        1063
Asn Ser Asn Pro Glu Leu Arg Gln Leu Pro Pro Val Asp Ala Glu Leu
            330             335             340

gac aac gtt aat aac gtt ctt agg aca gat ttg gat ggc ctg gtc caa        1111
Asp Asn Val Asn Asn Val Leu Arg Thr Asp Leu Asp Gly Leu Val Gln
            345             350             355

cag ggc tat caa tcc ctt aat gat ata cct gac aga gta caa cgc caa        1159
Gln Gly Tyr Gln Ser Leu Asn Asp Ile Pro Asp Arg Val Gln Arg Gln
    360             365             370

acc acg act gtc gta gca ggt atc aaa agg gtc ttg aat tcc att ggt        1207
Thr Thr Thr Val Val Ala Gly Ile Lys Arg Val Leu Asn Ser Ile Gly
375             380             385             390

tca gat atc gac aat gta act cag cgt ctt cct att cag gat ata ctc        1255
Ser Asp Ile Asp Asn Val Thr Gln Arg Leu Pro Ile Gln Asp Ile Leu
            395             400             405

tca gca ttc tct gtt tat gtt aat aac act gaa agt tac atc cac aga        1303
Ser Ala Phe Ser Val Tyr Val Asn Asn Thr Glu Ser Tyr Ile His Arg
            410             415             420

aat tta cct aca ttg gaa gag tat gat tca tac tgg tgg ctg ggt ggc        1351
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3.

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Asn Leu Pro Thr Leu Glu Glu Tyr Asp Ser Tyr Trp Trp Leu Gly Gly
        425                 430                 435

ctg gtc atc tgc tct ctg ctg acc ctc atc gtg att ttt tac tac ctg     1399
Leu Val Ile Cys Ser Leu Leu Thr Leu Ile Val Ile Phe Tyr Tyr Leu
        440                 445                 450

ggc tta ctg tgt ggc gtg tgc ggc tat gac agg cat gcc acc ccg acc     1447
Gly Leu Leu Cys Gly Val Cys Gly Tyr Asp Arg His Ala Thr Pro Thr
455                 460                 465                 470

acc cga ggc tgt gtc tcc aac acc gga ggc gtc ttc ctc atg gtt gga     1495
Thr Arg Gly Cys Val Ser Asn Thr Gly Gly Val Phe Leu Met Val Gly
                475                 480                 485

gtt gga tta agt ttc ctc ttt tgc tgg ata ttg atg atc att gtg gtt     1543
Val Gly Leu Ser Phe Leu Phe Cys Trp Ile Leu Met Ile Ile Val Val
                490                 495                 500

ctt acc ttt gtc ttt ggt gca aat gtg gaa aaa ctg atc tgt gaa cct     1591
Leu Thr Phe Val Phe Gly Ala Asn Val Glu Lys Leu Ile Cys Glu Pro
                505                 510                 515

tac acg agc aag gaa tta ttc cgg gtt ttg gat aca ccc tac tta cta     1639
Tyr Thr Ser Lys Glu Leu Phe Arg Val Leu Asp Thr Pro Tyr Leu Leu
        520                 525                 530

aat gaa gac tgg gaa tac tat ctc tct ggg aag cta ttt aat aaa tca     1687
Asn Glu Asp Trp Glu Tyr Tyr Leu Ser Gly Lys Leu Phe Asn Lys Ser
535                 540                 545                 550

aaa atg aag ctc act ttt gaa caa gtt tac agt gac tgc aaa aaa aat     1735
Lys Met Lys Leu Thr Phe Glu Gln Val Tyr Ser Asp Cys Lys Lys Asn
                555                 560                 565

aga ggc act tac ggc act ctt cac ctg cag aac agc ttc aat atc agt     1783
Arg Gly Thr Tyr Gly Thr Leu His Leu Gln Asn Ser Phe Asn Ile Ser
                570                 575                 580

gaa cat ctc aac att aat gag cat act gga agc ata agc agt gaa ttg     1831
Glu His Leu Asn Ile Asn Glu His Thr Gly Ser Ile Ser Ser Glu Leu
        585                 590                 595

gaa agt ctg aag gta aat ctt aat atc ttt ctg ttg ggt gca gca gga     1879
Glu Ser Leu Lys Val Asn Leu Asn Ile Phe Leu Leu Gly Ala Ala Gly
        600                 605                 610

aga aaa aac ctt cag gat ttt gct gct tgt gga ata gac aga atg aat     1927
Arg Lys Asn Leu Gln Asp Phe Ala Ala Cys Gly Ile Asp Arg Met Asn
615                 620                 625                 630

tat gac agc tac ttg gct cag act ggt aaa tcc ccc gca gga gtg aat     1975
Tyr Asp Ser Tyr Leu Ala Gln Thr Gly Lys Ser Pro Ala Gly Val Asn
                635                 640                 645

ctt tta tca ttt gca tat gat cta gaa gca aaa gca aac agt ttg ccc     2023
Leu Leu Ser Phe Ala Tyr Asp Leu Glu Ala Lys Ala Asn Ser Leu Pro
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4.

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                 650                        655                        660

cca gga aat ttg agg aac tcc ctg aaa aga gat gca caa act att aaa        2071
Pro Gly Asn Leu Arg Asn Ser Leu Lys Arg Asp Ala Gln Thr Ile Lys
        665                   670                   675

aca att cac cag caa cga gtc ctt cct ata gaa caa tca ctg agc act        2119
Thr Ile His Gln Gln Arg Val Leu Pro Ile Glu Gln Ser Leu Ser Thr
        680                   685                   690

cta tac caa agc gtc aag ata ctt caa cgc aca ggg aat gga ttg ttg        2167
Leu Tyr Gln Ser Val Lys Ile Leu Gln Arg Thr Gly Asn Gly Leu Leu
695                   700                   705                   710

gag aga gta act agg att cta gct tct ctg gat ttt gct cag aac ttc        2215
Glu Arg Val Thr Arg Ile Leu Ala Ser Leu Asp Phe Ala Gln Asn Phe
                  715                   720                   725

atc aca aac aat act tcc tct gtt att att gag gaa act aag aag tat        2263
Ile Thr Asn Asn Thr Ser Ser Val Ile Ile Glu Glu Thr Lys Lys Tyr
            730                   735                   740

ggg aga aca ata ata gga tat ttt gaa cat tat ctg cag tgg atc gag        2311
Gly Arg Thr Ile Ile Gly Tyr Phe Glu His Tyr Leu Gln Trp Ile Glu
        745                   750                   755

ttc tct atc agt gag aaa gtg gca tcg tgc aaa cct gtg gcc acc gct        2359
Phe Ser Ile Ser Glu Lys Val Ala Ser Cys Lys Pro Val Ala Thr Ala
        760                   765                   770

cta gat act gct gtt gat gtc ttt ctg tgt agc tac att atc gac ccc        2407
Leu Asp Thr Ala Val Asp Val Phe Leu Cys Ser Tyr Ile Ile Asp Pro
775                   780                   785                   790

ttg aat ttg ttt tgg ttt ggc ata gga aaa gct act gta ttt tta ctt        2455
Leu Asn Leu Phe Trp Phe Gly Ile Gly Lys Ala Thr Val Phe Leu Leu
                  795                   800                   805

ccg gct cta att ttt gcg gta aaa ctg gct aag tac tat cgt cga atg        2503
Pro Ala Leu Ile Phe Ala Val Lys Leu Ala Lys Tyr Tyr Arg Arg Met
            810                   815                   820

gat tcg gag gac gtg tac gat gat gtt gaa act ata ccc atg aaa aat        2551
Asp Ser Glu Asp Val Tyr Asp Asp Val Glu Thr Ile Pro Met Lys Asn
        825                   830                   835

atg gaa aat ggt aat aat ggt tat cat aaa gat cat gta tat ggt att        2599
Met Glu Asn Gly Asn Asn Gly Tyr His Lys Asp His Val Tyr Gly Ile
        840                   845                   850

cac aat cct gtt atg aca agc cca tca caa cat tgatagctga tgttgaaact      2652
His Asn Pro Val Met Thr Ser Pro Ser Gln His
855                   860                   865

gcttgagcat caggatactc aaagtggaaa ggatcacaga tttttggtag tttctgggtc      2712

tacaaggact ttccaaatcc aggagcaacg ccagtggcaa cgtagtgact caggcgggca      2772
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5.

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ccaaggcaac ggcaccattg gtctctgggt agtgctttaa gaatgaacac aatcacgtta    2832

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ttactttttt acactgagtt tctatttaga cactacaaca tatggggtgt ttgttcccat    2952

tggatgcatt tctatcaaaa ctctatcaaa tgtgatggct agattctaac atattgccat    3012

gtgtggagtg tgctgaacac acaccagttt acaggaaaga tgcattttgt gtacagtaaa    3072

cggtgtatat accttttgtt accacagagt ttttaaaca aatgagtatt ataggacttt    3132

cttctaaatg agctaaataa gtcaccattg acttcttggt gctgttgaaa ataatccatt    3192

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actttatcaa agattggcca tgttccactt ggaaatggca tgcaaaagcc atcatagaga    3312

aacctgcgta actccatctg acaaattcaa aagagagaga gagatcttga gagagaaatg    3372

ctgttcgttc aaaagtggag ttgttttaac agatgccaat tacggtgtac agtttaacag    3432

agttttctgt tgcattagga taaacattaa ttggagtgca gctaacatga gtatcatcag    3492

actagtatca agtgttctaa aatgaaatat gagaagatcc tgtcacaatt cttagatctg    3552

gtgtccagca tggatgaaac ctttgagttt ggtccctaaa tttgcatgaa agcacaaggt    3612

aaatattcat ttgcttcagg agtttcatgt tggatctgtc attatcaaaa gtgatcagca    3672

atgaagaact ggtcggacaa aatttaacgt tgatgtaatg gaattccaga tgtaggcatt    3732

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<213> Homo sapiens

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Ser Phe Ser Gly Gly Gln Pro Ser Ser Thr Asp Ala Pro Lys Ala Trp
            20                  25                  30
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6.

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Asn Tyr Glu Leu Pro Ala Thr Asn Tyr Glu Thr Gln Asp Ser His Lys
        35                  40                  45


Ala Gly Pro Ile Gly Ile Leu Phe Glu Leu Val His Ile Phe Leu Tyr
        50                  55                  60


Val Val Gln Pro Arg Asp Phe Pro Glu Asp Thr Leu Arg Lys Phe Leu
65                  70                  75                  80


Gln Lys Ala Tyr Glu Ser Lys Ile Asp Tyr Asp Lys Pro Glu Thr Val
                85                  90                  95


Ile Leu Gly Leu Lys Ile Val Tyr Tyr Glu Ala Gly Ile Ile Leu Cys
                100                 105                 110


Cys Val Leu Gly Leu Leu Phe Ile Ile Leu Met Pro Leu Val Gly Tyr
        115                 120                 125


Phe Phe Cys Met Cys Arg Cys Cys Asn Lys Cys Gly Gly Glu Met His
        130                 135                 140


Gln Arg Gln Lys Glu Asn Gly Pro Phe Leu Arg Lys Cys Phe Ala Ile
145                 150                 155                 160


Ser Leu Leu Val Ile Cys Ile Ile Ile Ser Ile Gly Ile Phe Tyr Gly
                165                 170                 175


Phe Val Ala Asn His Gln Val Arg Thr Arg Ile Lys Arg Ser Arg Lys
                180                 185                 190


Leu Ala Asp Ser Asn Phe Lys Asp Leu Arg Thr Leu Leu Asn Glu Thr
                195                 200                 205


Pro Glu Gln Ile Lys Tyr Ile Leu Ala Gln Tyr Asn Thr Thr Lys Asp
        210                 215                 220


Lys Ala Phe Thr Asp Leu Asn Ser Ile Asn Ser Val Leu Gly Gly Gly
225                 230                 235                 240


Ile Leu Asp Arg Leu Arg Pro Asn Ile Ile Pro Val Leu Asp Glu Ile
                245                 250                 255
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7.

Lys Ser Met Ala Thr Ala Ile Lys Glu Thr Lys Glu Ala Leu Glu Asn
            260   265   270

Met Asn Ser Thr Leu Lys Ser Leu His Gln Gln Ser Thr Gln Leu Ser
            275   280   285

Ser Ser Leu Thr Ser Val Lys Thr Ser Leu Arg Ser Ser Leu Asn Asp
    290   295   300

Pro Leu Cys Leu Val His Pro Ser Ser Glu Thr Cys Asn Ser Ile Arg
305   310   315   320

Leu Ser Leu Ser Gln Leu Asn Ser Asn Pro Glu Leu Arg Gln Leu Pro
                325   330   335

Pro Val Asp Ala Glu Leu Asp Asn Val Asn Asn Val Leu Arg Thr Asp
            340   345   350

Leu Asp Gly Leu Val Gln Gln Gly Tyr Gln Ser Leu Asn Asp Ile Pro
            355   360   365

Asp Arg Val Gln Arg Gln Thr Thr Thr Val Val Ala Gly Ile Lys Arg
    370   375   380

Val Leu Asn Ser Ile Gly Ser Asp Ile Asp Asn Val Thr Gln Arg Leu
385   390   395   400

Pro Ile Gln Asp Ile Leu Ser Ala Phe Ser Val Tyr Val Asn Asn Thr
                405   410   415

Glu Ser Tyr Ile His Arg Asn Leu Pro Thr Leu Glu Glu Tyr Asp Ser
            420   425   430

Tyr Trp Trp Leu Gly Gly Leu Val Ile Cys Ser Leu Leu Thr Leu Ile
            435   440   445

Val Ile Phe Tyr Tyr Leu Gly Leu Leu Cys Gly Val Cys Gly Tyr Asp
    450   455   460

Arg His Ala Thr Pro Thr Thr Arg Gly Cys Val Ser Asn Thr Gly Gly
465   470   475   480

Val Phe Leu Met Val Gly Val Gly Leu Ser Phe Leu Phe Cys Trp Ile

8.

Leu Met Ile Ile Val Val Leu Thr Phe Val Phe Gly Ala Asn Val Glu
        500   505   510

Lys Leu Ile Cys Glu Pro Tyr Thr Ser Lys Glu Leu Phe Arg Val Leu
        515   520   525

Asp Thr Pro Tyr Leu Leu Asn Glu Asp Trp Glu Tyr Tyr Leu Ser Gly
        530   535   540

Lys Leu Phe Asn Lys Ser Lys Met Lys Leu Thr Phe Glu Gln Val Tyr
545   550   555   560

Ser Asp Cys Lys Lys Asn Arg Gly Thr Tyr Gly Thr Leu His Leu Gln
                565   570   575

Asn Ser Phe Asn Ile Ser Glu His Leu Asn Ile Asn Glu His Thr Gly
            580   585   590

Ser Ile Ser Ser Glu Leu Glu Ser Leu Lys Val Asn Leu Asn Ile Phe
            595   600   605

Leu Leu Gly Ala Ala Gly Arg Lys Asn Leu Gln Asp Phe Ala Ala Cys
        610   615   620

Gly Ile Asp Arg Met Asn Tyr Asp Ser Tyr Leu Ala Gln Thr Gly Lys
625   630   635   640

Ser Pro Ala Gly Val Asn Leu Leu Ser Phe Ala Tyr Asp Leu Glu Ala
                645   650   655

Lys Ala Asn Ser Leu Pro Pro Gly Asn Leu Arg Asn Ser Leu Lys Arg
                660   665   670

Asp Ala Gln Thr Ile Lys Thr Ile His Gln Gln Arg Val Leu Pro Ile
        675   680   685

Glu Gln Ser Leu Ser Thr Leu Tyr Gln Ser Val Lys Ile Leu Gln Arg
        690   695   700

Thr Gly Asn Gly Leu Leu Glu Arg Val Thr Arg Ile Leu Ala Ser Leu
705   710   715   720

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Asp Phe Ala Gln Asn Phe Ile Thr Asn Asn Thr Ser Ser Val Ile Ile
                725             730             735


Glu Glu Thr Lys Lys Tyr Gly Arg Thr Ile Ile Gly Tyr Phe Glu His
            740             745             750


Tyr Leu Gln Trp Ile Glu Phe Ser Ile Ser Glu Lys Val Ala Ser Cys
            755             760             765


Lys Pro Val Ala Thr Ala Leu Asp Thr Ala Val Asp Val Phe Leu Cys
        770             775             780


Ser Tyr Ile Ile Asp Pro Leu Asn Leu Phe Trp Phe Gly Ile Gly Lys
785             790             795             800


Ala Thr Val Phe Leu Leu Pro Ala Leu Ile Phe Ala Val Lys Leu Ala
                805             810             815


Lys Tyr Tyr Arg Arg Met Asp Ser Glu Asp Val Tyr Asp Asp Val Glu
            820             825             830


Thr Ile Pro Met Lys Asn Met Glu Asn Gly Asn Asn Gly Tyr His Lys
            835             840             845


Asp His Val Tyr Gly Ile His Asn Pro Val Met Thr Ser Pro Ser Gln
        850             855             860                     .


His
865
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10.